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Specifcation of products

:

: MURP600100CI

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Ultra-Fast Soft Recovery Diode Module

Description

Ultra-FRD module devices are optimized to reduce losses and EMI/RFI in high frequency power conditioning electrical systems. These diode modules are ideally suited for power converters, motors drives and other applications where switching losses are significant portion of the total losses.

Equivalent Circuitand Pac kage

Equivalent Circuit



Features

- ☞ Repetitive Reverse Voltage : V_{RRM} = 200V
- ☞ Low Forward V oltage Drop : V_F (typ.) = 1.0V
- ☞ Average Forward Cur r ent : $I_{F(AV.)}$ = 600A @ Tc= 100℃
- ☞ Ultra-Fast Reverse RecoveryTime : t_{rr}(typ.) = 95 ns
- ☞Extensive Characterization of Recovery Parameters
- ☞Reduced EMI and RFI
- ☞Non Isolation Type Package

Applications

Motor Drives, Free wheel use, High Power Converters, Welders, Various Switching and Telecommunication Power Supply

Absolute Maximum Ratings @ T_j=25℃(Per Leg)

Symbol	Parameter	Conditions	Ratings	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		200	V
$V_{R(DC)}$	Reverse DC Voltage		160	V
$I_{F(AV)}$	Average Forward Current @ Tc=25℃ @ Tc = 100	Resistive Load	600 450	A A
I_{FSM}	Surge(non-repetitive) Forward Current	One Half Cycle at 60Hz, Peak Value	4800	A
I^2t	I^2t for Fusing	Value for One Cycle Current, t_W= 8.3ms T_j= 25℃Start	66.7* 10^3	A^2 s
T_j	JunctionTemperature		-40 ~ 125	℃
T_{stg}	StorageTemperature		-40 ~ 125	℃
P_d	Maximum Power Dissipation		870	W
-	Mounting Torque		4.0	N.m
-	Terminal Torque		3.0	N.m

Thermal Characteristics

Symbol	Parameter	Conditions	Values			Unit
			Min.	Typ.	Max.	
$R_{th(j-c)}$	Thermal Resistance	Junction to Case	-	-	0.22	℃/W

Electrical Characteristics @T_j=25℃ (unless otherwise specified)

Symbol	Parameter	Conditions	Values	Unit
V_R	Cathode Anode Breakdown Voltage			
V_{FM}	Maximum Forward Voltage			
I_{RRM}	Repetitive Peak Reverse Current			
t_{rr}	Reverse Recovery Time			

Rating and Characteristic

Performance Cu rves

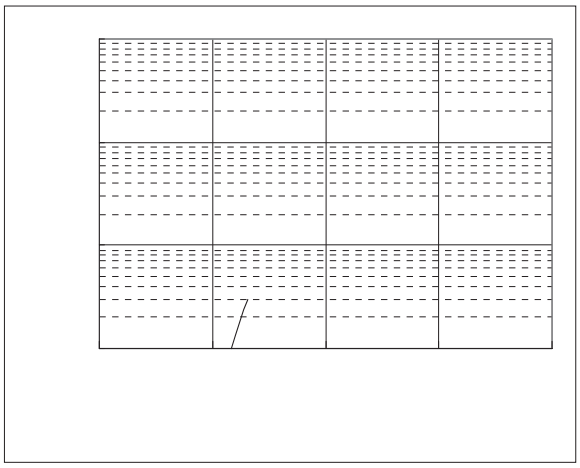

Fig. 1 : Typical Forward Voltage Drop vs. Instantaneous Forward Cur rent

Fig. 2 : Typical Reverse Recovery Time vs. -di/dt